RENEWABLE RESOURCES: BUILDING ON A TRADITION

Northwest Territories Economic Development and Tourism

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RENEWABLE RESOURCES: BUILDING ON A TRADITION

People in the Northwest Territories have depended on the land and all it offers for thousands of years. The renewable resource economy as we know it today began with a simple barter system, the exchange of raw furs for imported goods.

Our renewable resources continue to have great significance to northern lifestyles and cultures, as well as to our economy. Renewable resources have the potential to contribute even more to the economy than they do at present. We could use more of our resources and use them more profitably, in a manner consistent with traditional northern values.

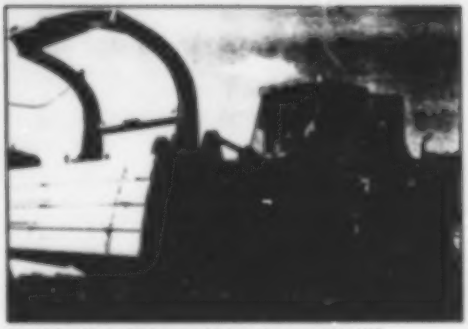
The long held belief of aboriginal peoples, that use of the land and all it sustains must not limit opportunities for use by future generations, is today termed, "sustainable development". This Renewable Resource Strategy focuses on ways sustainable development of our resources can contribute to an improved economic situation for Northerners.

The primary purpose of this renewable resource strategy is to develop an approach and means to implement identified commercial renewable resource opportunities in order to maximize employment and income benefits to Northerners.

Before we examine the proposed action plan, let's look at the importance of renewable resources, what stops us from realizing their economic potential, and then the prospects for the future.

Tessa Macintosh, Culture and Communications, Government of the NWT

WHAT IS THE RENEWABLE RESOURCES SECTOR?



Gene Hachey, Economic Development & Tourism, Government of the NWT

The fur trade was the basis of the northern economy for many years. For that reason, fur may be what many of us think of first when we consider renewable resources as a sector of our economy. But, we're also talking about our timber, firewood, fish, all kinds of country foods, and agriculture.

The renewable resources economy is not just the harvesting of raw products. Any economic activity which uses animal parts or another renewable resource, such as timber, is included in this economic sector. The renewable resource industry today includes manufacturing activities providing an array of products for use in the N.W.T. and for export.

RENEWABLE RESOURCES AND OUR NORTHERN ECONOMY

Although the monetary value of renewable resources is low in relation to the Gross Domestic Product (an estimated three percent), the cash economy of most small communities revolves around subsistence renewable resource activities.

THE VALUE WITHIN THE DOMESTIC MARKET

The thriving domestic use of local resources replaces many expensive goods which we would otherwise import from southern Canada. The amount of country food, fuel, and the like which we consume in the N.W.T., on a commercial and subsistence basis, was valued at an estimated $46.6 million in 1986 (1988 N.W.T. Economic Review and Outlook) and is estimated to be about $54 million in present day value. This dollar value is arrived at by estimating what it would cost Northerners if we had to import an amount of food and other renewable resources equivalent to what we now supply ourselves.

The domestic market potential to the year 2000 will depend largely on the population and disposable income within the small, traditional and medium-size communities. The 57 communities in these categories have tripled in population over the past 25 years. They now represent more than half of the total N.W.T. population and 75% of the aboriginal population.

The larger communities of Inuvik, Yellowknife, Fort Smith and Hay River are beginning to support an active commercial inter-settlement trade of domestic products. Domestic markets can be expected to grow.

However, since many Northerners wish to combine traditional harvesting activities with wage earning opportunities, the extent to which renewable resources continue to be harvested on either a subsistence, or a commercial basis, relies a great deal on the stability of the resource base and economic return on investment.

RENEWABLE RESOURCE EXPORTS

We do not keep our renewable resources all for ourselves. In 1988/89, we exported an estimated $7.5 million worth of fur and fish. The income derived from renewable resource exports is only a small portion of the territorial wage economy. In large part, exports play the role of supporting the domestic hunting and gathering activities (Scone Report: A Strategy For Supporting the Domestic Economy of the Northwest Territories). The comparative values of exports and domestic consumption of renewable resources is illustrated in Figure 1.

Since the 1970's, commercial trade in domestic goods within the N.W.T. has grown. However, studies have concentrated on quantifying the value of exports, while the domestic trade within the N.W.T. has not been measured as accurately.

Although smaller than export markets, the medium-size and larger communities are closer and easier to access for the traditional communities. Our main supplier of renewable resources are the traditional and medium-size communities.

Ed Hall, Renewable Resources, Government of the NWT

Figure 1: Comparison of Approximate Export and Import Replacement Values in the Renewable Resource Economy

Exports	1988/89 [1] ($ MILLIONS)
Fur	4.4 [2]
Commercial Fishing	3.1
Subtotal	7.5
Import Replacement (Domestic Consumption)	
Fuelwood	2.3 [3]
Domestic Milled Lumber	1.3
Round Logs for Homes	1.2 [3]
Fisheries and Marine Mammals	14.0 [3]
Subsistence Wildlife	32.3 [3]
Commercial Country Foods	1.0
Agriculture	1.8
Subtotal	53.9
Total	60.9

(1) Department of Economic Development and Tourism, 1989, unless otherwise indicated.
(2) Department of Renewable Resources, 1989.
(3) Department of Economic Development and Tourism, N.W.T. Economic Review and Outlook, 1988. Figures were adjusted to reflect an 11% increase in the Consumer Price Index since 1986 when data was calculated.

Doug Heard, Renewable Resources, Government of the NWT

EMPLOYMENT AND INCOME

The harvesting of renewable resources for domestic use enjoys the widest participation among N.W.T. residents of any economic activity (Scone Report: A Strategy for Supporting the Domestic Economy of the Northwest Territories). Approximately 4,000 native families are engaged in harvesting, while about 5,500 individuals hunt. Renewable resources provide both direct and indirect benefits.

Direct employment and income tends to be derived from the smaller export market for fur and fish. But, the residents of the small and medium-sized communities, and particularly aboriginal people who make up the majority population in these communities, gain non-cash benefits from participation in the subsistence economy. Clothing, country foods, and fuelwood are examples of non-cash benefits derived from subsistence activities.

These benefits include subsistence supplies, as well as continuing links with their culture. Domestic harvesting is also an important source of raw materials for the arts and crafts industry in the N.W.T.

Often there is a mix of wage and subsistence activities. In many cases commercial country food production, commercial fishing, trapping, forestry and agriculture activities, along with subsistence hunting and gathering for food, can be undertaken by the same family harvesting unit. They are all land- based activities in which the required skills and knowledge can be interchanged.

Wage employment is generated by the commercial production of fur, fish, country foods, agriculture and forestry products.

Figure 2 displays direct participation and income derived from the commercial production of renewable resources.

At least 500 people in the small and medium-sized communities will reach working age each year this decade. Without any change in the employment and income opportunities now available, these new members of our labour force will have their income options largely restricted to a mix of transfer payments, subsistence and seasonal wage activities. That's a major incentive to increasing the opportunities within the renewable resources economy!

Figure 2: Employment and Labour Income in the Commercial Renewable Resource Sector

Sector	Participation	Income ($000)
Fur	2,352	$4,439 [1]
Commercial Fishing	530	$3,100 [2]
Fish Processing	50	$ 500 [3]
Forestry	50	$1,000 [3]
Agriculture	10-13	$ 350 [3]
Country Foods Hunting	80-100	$ 184 [3]
Country Foods Processing	42	$400 [3]

1 1988/89
2 1989
3 Estimates

IMPACT OF GOVERNMENT PROGRAMS

Government agencies play a dual role in the renewable resource economy. The Federal government, and increasingly the G.N.W.T., play active roles in the management of resources, while both levels of government have played a cooperative role in investing in the growth of the sector.

Management practices and policies determine the availability of resources to users. Federal and territorial legislation and policies are designed to regulate the use of our resources in a responsible way, while guiding an economic industry depending on these same resources. The maintenance of a healthy resource base is essential to maintain long term economic stability.

Resource management programs have focused on our forests, wildlife, and fish. Some of the resource management initiatives include regional land use planning, wildlife surveys, and forest fire management.

One example of the importance placed on resource conservation is the $1.7 million in contracts awarded in 1989 to protect the forest resource base against fire. Three million dollars was spent in wages for 170 seasonal employees, and $750,000 in additional firefighter wages for 700 people. Much of this significant investment in resource protection filters directly into the territorial economy.

At the same time, the Federal Government and the G.N.W.T. work jointly to invest in the development of the renewable resource industry. They assist in research, developing products and markets, and directly support renewable resource based entrepreneurs. Government provides training programs and invests in developing costly infrastructure. The proposed N.W.T. Development Corporation will be specifically designed to initiate and operate capital intensive projects where viability may not be realized for several years.

The G.N.W.T. has focused industry assistance on the needs of the producer and harvester, primarily in the small and medium or emerging communities. Important economic development priorities have been the trapper, and the fisherman, by virtue of their sheer numbers. The territorial government provides assistance to primary producers and harvesters, and has played a major role in assuring future markets for northern exports by countering the anti-fur campaigns of Europe and southern Canada.

Carla Tremaine, Economic Development & Tourism, Government of the NWT

GOVERNMENT INVESTMENT

During the past two years, the G.N.W.T. invested $5.4 million in the commercial renewable resource economy (not including trapping). Government investment includes support for both capital projects and operation expenses. In addition, $2.2 million were provided in the past year alone under a variety of programs to assist hunters and trappers.

Much of this money is directed at specific segments of the industry, to the commercial fishery, forestry or to the trapping industry. Subsidies to commercial fishermen allow them to move their fish product to market at a competitive rate. Assistance to the forest industry improves productivity and access to the resource.

Renewable resource business enhancement capital, and operation and maintenance contributions provide support to industry entrepreneurs when no other funds are available.

Individual renewable resource developers may also be eligible for start-up and improvement capital through the Economic Development Agreement. The

EDA helps to identify business opportunities and assist resource developers with start-up costs and capital to buy facilities and equipment. EDA also provides investment in resource product development and market testing.

The G.N.W.T. provides assistance to community organizations and individuals to undertake renewable resource demonstration projects. Many of these are in the small and emerging communities.

But not all incentives are for commercial development. Subsistence activities are supported as well. While, in recent years, the G.N.W.T. has focused on countering the obstacles facing the international fur trade, some of its efforts have been directed closer to home. Humane trapping education programs for individual harvesters are attempts to put a more acceptable face on northern fur production. Hunter and trapper incentives are designed to stimulate activity, primarily in the small, traditional communities.

Figure 3 illustrates the level of government assistance directed at the commercial renewable resource industry but excluding assistance to trappers. It is interesting to note that the per capita assistance has been highest in medium-sized communities and lowest in the small, traditional communities which depend most on the renewable resource economy.

The level of G.N.W.T. support for renewable resources confirms its appreciation of their cultural and lifestyle significance, as well as the importance of these activities to both our domestic and export economy.

GOVERNMENT TRAINING EFFORTS

Where skill shortages have been identified in the renewable resources industry, the government has moved in to provide training assistance to Northerners. The training which has been provided has largely responded to changing markets and the need to deliver an improved or new product.

For example, entry level training has been implemented by Arctic College to prepare Northerners to participate in new marine fishery opportunities in the Baffin Region. Trapper education programs have focused on introducing humane trapping techniques in the north and improving the grade of furs sent to market.

But, training efforts have not been able to meet the demand. Imported labour still remains a reality within the renewable resources sector, particularly in the area of manufacturing secondary products. And, this is often where the higher incomes and levels of employment are most available. Imported labour reduces the economic benefits Northerners receive from their renewable resources.

Figure 3.

G.N.W.T. Contributions To Renewable Resource Businesses ($)

	1988/89	1989/90*	Total
Level 1	$1,375,525	$1,634,229	$3,009,754
Level 2	741,160	834,194	1,575,354
Level 3	411,487	413,934	825,421
Total	2,528,172	2,882,357	5,410,529

* To November 20, 1989

Note: Of the $5.4 million spent over the past two years on renewable resource businesses, $639,143 was in the form of subsidies, i.e. fish freight & forestry subsidy. This represents 12% of government spending on renewable resource business contributions.

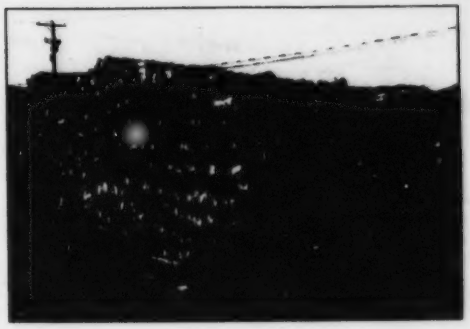
Per Capita Contributions to Renewable Resource Projects ($)

	1988/89	1989/90*	2 yr. Avg.
Level 1	53	63	58
Level 2	77	87	82
Level 3	23	24	24
Wt. Avg.	47	54	51

* To November 20, 1989

Note: Level 1 communities are considered to have mature markets, level 2 communities have developing markets, and level 3 communities have underdeveloped markets.

OUR RENEWABLE RESOURCE POTENTIAL



The real opportunity for future growth and prosperity lies in a better use of our resources. Recognizing the renewable resource potential at our doorstep, the G.N.W.T. is now laying the groundwork to integrate resource development and conservation.

But, where is this resource potential? Research has only begun to scratch the surface of renewable resource development in our unique environment and give us the clues to future opportunities. It appears certain however, that the principles of sustainable development can be maintained at the same time as we carefully develop renewable resource business opportunities.

The research efforts to date have focused on various parts of the industry - freshwater and marine fisheries, forestry, country food, agricultural and fur production. There are four distinct ways we can realize greater income from our renewable resources.

1. REPLACING IMPORTS

There is no question that within the N.W.T. there is a market for renewable resource products, which we can produce ourselves. Instead, many of these goods are imported at higher costs.

Let's look at some examples.

- Of the $197 million of food products (1989 dollars)[1] consumed in the N.W.T. each year, 75% is imported from outside the region while the remaining 25% is country foods and agricultural food production.
- The Northwest Territories uses $8.32 million worth of forestry products annually at 1989 prices (130 thousand cubic metres or 26 million board feet). What is the northern supply? A mere 15%, or 20 thousand cubic metres (four million board feet) valued at $1.28 million is produced each year.

2. INCREASED EFFICIENCY

In order to make the best use of renewable resources available, more efficient methods of production need to be employed. Increased efficiency and adoption of more appropriate equipment and technology often will reduce costs and improve competitiveness. It should be cautioned that excessive increases in technological efficiency may reduce the amount of labour required. In keeping with the strategy goal of employment and income creation, efforts to improve production efficiency will be concentrated in areas where outdated techniques and equipment result in marginal economic performance for the majority of producers in a field.

An example is the Great Slave Lake fishery; outdated techniques and equipment render fishing a marginal economic activity for many producers.

It must be recognized that as fishing efficiency increases, resource stocks must be carefully monitored to ensure that they are not unduly strained.

1. Based on an estimated $167 million in 1984 (Don Ference and Associates, **Import Substitution Opportunities**, 1987). The value was adjusted to reflect an 18.1% increase in food prices from 1984 to 1989 (Bureau Statistics, 1990).

WHERE'S THE BEEF .... MUSK-OX?

Thanks to Central Arctic Meats Ltd. of Cambridge Bay, smoked char and various cuts of musk-ox and caribou are now available across the Northwest Territories. Mmmmm. Who needs beef?

Northerners have always appreciated country foods. Now musk-ox and caribou in various forms, from sausage and jerky to roast loin, are available in stores across the north.

Central Arctic Meats Ltd. is a business established by the Cambridge Bay Hunters and Trappers Association to operate a meat processing and packaging plant in the community. The plant opened in 1987 with a grant and loan from the Department of Economic Development and Tourism and the company's own capital investment.

"When the board of directors decided to start the plant, it was trying to replace imported meat in the community with meat available right here. A main goal, too, was to give people who weren't working a chance to make some money when they were out hunting," says the plant manager, Joe Evetaligak.

In addition to providing seasonal employment for six or seven hunters, the meat plant employs five full-time staff.

Mr. Evetaligak says people in Cambridge Bay like the taste of caribou and musk-ox better than beef or pork, and it's cheaper too. He says jerky is one of the best selling products made at the plant, not surprising given northerners love of dry meat. The popularity of Central Arctic Meats' products has spread to other regions of the territories.

"Even white people buy a lot of meat from here, especially if they're looking for something to take down south to friends and relatives. Of course they have to get an export permit," notes Mr. Evetaligak.

MEAT PLANT HAS PLANS TO INCREASE PRODUCTION VOLUME

The potential for expanding the market outside the Northwest Territories is believed to hold great possibilities. However, since there are no federal meat inspection facilities in the north, commercial export of the meat products is impossible for the time being.

Central Arctic Meats is trying to convert the available meat harvest into incomes for people living in Cambridge Bay. The meat plant has been using up its available commercial quota for caribou of 125 animals a year. The commercial quota for musk-ox available to Central Arctic Meats jumped this year from 95 to 500 animals. Only 128 animals were processed. The meat plant is concentrating on increasing production to utilize its musk-ox quota. Central Arctic Meats also has a specific char fishing area which doesn't interfere with the domestic char fishery, says Mr. Evetaligak.

Training for plant workers and hunters has been provided with funding from Economic Development and Tourism and Canada Employment and Immigration. Hunters have had to learn how to handle carcasses for a commercial operation. The skills required for the plant employees have included vacuum packing, how to properly use spices, and bookkeeping skills. Mr. Evetaligak trained under the previous manager before taking responsibility for the management of the plant, now entirely operated and managed by local Inuit.

Mr. Evetaligak says one of his difficulties as manager is dealing with cash flow problems.

"We ship a lot of meat to places like Yellowknife. Sometimes it's hard if other companies don't pay their bills right away. Sometimes it's a month and a half before we get our money." He says cash flow is being better managed but sometimes it is beyond the company's control, for instance, when a high volume customer in Yellowknife recently went bankrupt.

The company is working hard to meet current demand before increasing its advertising and promotion efforts. Mr. Evetaligak says there is potential to increase sales within the NWT once production is increased and people become more aware of the quality of the product offered by Central Arctic Meats. He is convinced that the quality of its products ensures a successful future for Central Arctic Meats.

3. INCREASED PRODUCTION

The supply of many of our renewable resources are underutilized. Consider that:

- The combined commercial quota for musk-ox and caribou is 6,939 animals a year. That is equivalent to about 430,000 kg. of red meat. Only about 18% of the quota, valued at over $1 million, is currently harvested.
- There are approximately 142,000 square kilometres of productive forests in the N.W.T. That is enough to more than meet the N.W.T. demand for forestry products. The known capacity of our timber stands in the Liard Valley, Cameron Hills and Fort Resolution areas is in excess of 150 thousand cubic metres (30 million board feet) a year. But, right now we import 110 thousand cubic metres (22 million board feet) annually.
- Agricultural lands amount to 4.3 million hectares, of which 2.9 million is suitable for cereal, forage and vegetable production. Our current level of agricultural production is insignificant.

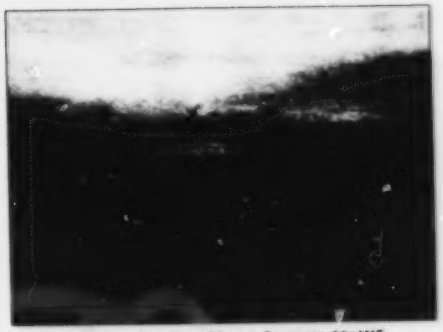
It is noteworthy that commercial wildlife and fish quotas may fluctuate over time, depending on changing population size, or subsistence use. Thus, in developing commercial renewable resources we must take care to increase production in gradual increments so that changes in population may be measured and wildlife populations are not put at risk. Production targets, which are stated below, have been set with a substantial safety margin to protect investors from unexpected quota decreases.

4. SECONDARY PROCESSING

While an expanded use of our primary resources would go a long way to improving our balance of trade, research tells us that there is value-added processing potential for both export and domestic markets. If we process our products in the north, they are worth more, both to us and export markets, hence, secondary industries produce what is called, value-added products.

We could take advantage of untapped resources, and different or technologically advanced production methods, to improve the employment and income benefits gained from our resource base.

Studies have examined several secondary processing opportunities. These include establishing meat processing facilities, qiviut wool processing and commercial tanneries. Smoked and dried meats and fish, and the introduction of new marine fisheries are current testing grounds for new products.



Gene Hachey, Economic Development & Tourism, Government of the NWT

SO, WHAT'S THE PROBLEM?

From Museums, Culture and Communications, Government of the NWT

While there is ample opportunity for our renewable resources industry to contribute more to the N.W.T. economy and provide greater rewards for harvesters and producers, there are a range of obstacles which plague growth. Most relate to the costs of production.

The challenge has been to turn our abundant resources into suitable products for our readily available local markets. The constraints have had an enormous impact on the our ability to successfully meet that challenge.

Most of the obstacles facing the renewable resources sector are common to all northern industries.

Climatic Conditions - Short seasons and a harsh climate are characteristic of the NWT environment, putting additional stress on seasonal operations.

High Transportation Costs - The high costs of importing goods to the north increases production costs in virtually every sector.

Small, Dispersed Markets - While Northerners could replace expensive imports with local goods, it is difficult and expensive to supply our widely-scattered communities. The shortage of efficient transportation networks heightens the problem.

Limited Participation of Northerners - Due to a shortage of the required skills and training many of the jobs and income in the renewable resource industry are taken by imported labour. This is particularly true in the processing or manufacturing end of the industry, which also often tends to be where the higher-paying jobs are concentrated. Many Northerners, especially in the small and medium-sized communities, do not have the required capital to invest in renewable resource business opportunities which do exist.

Inefficient Harvesting Techniques - Inadequate technology and the need for skill development reduce the efficiency of many operations. The transition from subsistence hunting and fishing to commercial harvesting often requires adjustments in the handling of wildlife and fish to meet consumer demand.

Under-use of Resources - In at least some cases, using so little of our available stock of resources, hinders the cost- effectiveness of improving production and marketing methods.

Moratorium on Land Development - Use of lands for agricultural and forestry development is hindered pending settlement of Dene/Metis land claims.

Inadequate Infrastructure - The nascent stage of many of the N.W.T.'s renewable resource industries means that the usual infrastructure which is taken for granted in more industrialized areas is lacking. This results in higher costs. For example, the commercial fishery would be more efficient with better boats, wharfs, and navigation aids.

Poor Return on Investment - The renewable resources industry tends to require patience. Typically high capital costs and marginal economic returns on renewable resource businesses discourages potential investors in the industry. Often large short term investments are required for returns which come in the long term.

Undeveloped Products - The process of developing secondary products from our renewable resources is really in its infancy. The research, investment and piloting of projects is, for the most part, beyond the capabilities of the private sector.

Information Shortage - There is a shortage of hard factual information about many aspects of renewable resources themselves, not to mention the technology and market research necessary for a thriving industry.

Inadequate Legislation - Legislation is required, particularly in the agricultural segment of the industry to permit marketing councils and producer boards, which regulate production and export of farm products. The absence of required legislation hampers development of the renewable resources industry.

OVERCOMING THE OBSTACLES

Where should the G.N.W.T. focus its efforts and money to help develop the renewable resource industry over the next decade, and in turn meet its overall objectives.

The Renewable Resources Strategy seeks to overcome the obstacles facing the industry while promoting economic self-reliance, increasing local employment opportunities and local influence over the pace of development. The emphasis is on identifying and supporting opportunities with local benefits.

Through this approach the Renewable Resource Strategy aims to reinforce the three Economic Strategy objectives:

- Reduce the employment and income disparities between and within communities and regions.
- Strengthen our economy through growth and diversification.
- Ensure Northerners receive a greater share of the benefits of economic development within the N.W.T.

No strategy can stand alone and address all relevant issues. The Renewable Resources Strategy is no exception. It can however, provide the links to other very important considerations - maintaining a sustainable yield of raw renewable resources, and land use planning, for example. The G.N.W.T. has ensured that the Renewable Resources Strategy is complementary to other economic development action plans.

The Economic Development and Tourism Renewable Resource Strategy has the following six goals:

1. Improve industry competitiveness by enhancing technology, training and distribution systems.
2. Expand domestic and export renewable resources markets.
3. Increase the value of N.W.T. renewable resources by producing high quality products and processing our raw natural resources.
4. Increase production of surplus renewable resources while striving towards self-sufficiency in domestic markets.
5. Increase northern participation to optimize economic and social benefits to Northerners.
6. Develop industry consensus through the establishment and strengthening of industry organizations.

PRINCIPLES FOR RENEWABLE RESOURCES DEVELOPMENT

The initiatives are designed to develop the renewable resource industry and achieve the objectives of a balanced, growing and diversified economy. Success will mean expanding benefits to all N.W.T. residents.

We have the responsibility to implement an action plan to guide its role in the renewable resources industry. But, it recognizes that it can't "go-it-alone." Future prosperity demands a high level of support and participation from within the industry. To meet the challenges of the 1990's, we will plan policies and programs consistent with the following principles.

OFF-SHORE SHRIMP FISHERY PROVIDES JOBS AND ROYALTIES

Joint venture in the renewable resource sector is producing employment, training opportunities and investment capital, as well as shrimp for the world market.

A three-year-old off-shore shrimp fishery is providing approximately $1 million in income a year for Baffin Inuit crew members. This is just one sign of the financial success of the joint venture.

Qiqiqtaaluk Corporation, the corporate arm of the Baffin Regional Inuit Association, and Farocan, an Ottawa company, have a five- year contract which benefits both parties.

The Federal Department of Fisheries and Oceans licenses people living in proximity to the resource. Qiqiqtaaluk holds the license to fish. Farocan, with no license, has the two factory freezer trawlers, as well as the management and technical experience to ensure the project's success.

It's a mutually beneficial partnership, says Dean Hay, of Qiqiqtaaluk. The venture is providing royalty income directly to Qiqiqtaaluk Corporation to finance other ventures. There is also the opportunity to buy an interest in the boats as capital becomes available and Inuit can take over management positions as they are trained for them.

COMMITMENT TO TRAINING AND MORE INUIT EMPLOYMENT

"We are very pleased with Farocan's commitment to hiring and training Inuit. Right now the crews are 50 percent Baffin Inuit. Our goal is to increase that to 90 percent in five years."

Mr. Hay says, that with a waiting list for the jobs, that goal is well within reach. Currently 44 Inuit crew members from across the Baffin region work on a rotational basis. The crews work for three months at a stretch with flexible off-time periods.

"We do lose about 20 percent of our workers with every crew change. It really is hard work. People are away from home or they may get seasick. It's not for everyone. But there are people who have really taken to it. One of the things we're trying to do now is include wives and girlfriends in our initial training sessions to prepare people for changes they'll be facing in terms of their family life and help people with things like financial management," says Mr. Hay.

Territorial government assistance for the joint venture has been in the form of training money and programs, as well as help working through the red tape with various agencies and government departments.

Job training has taken some Inuit crew members to Nova Scotia, although most training has been provided through Arctic College's Nunatta Campus in Iqaluit. As Inuit workers gain experience and require further training for more technical positions and management jobs, the requirements become more specific. The training has to prepare people for work on state-of-the-art vessels working in Canada's most modern fishery. "Because we're dealing with sophisticated navigational and processing equipment, the training is getting increasingly specialized and hard to find in Canada. As soon as we get one level of needed training resolved we're onto the next level," says Mr. Hay. Certification for training is being sought.

BENEFITS EXTEND THROUGHOUT REGION

The economic benefits of the shrimp fishery go well beyond the employees, ranging from increased business for air charter and hotel companies, to a father-in-law who gets a new skidoo as a gift. One employee has recently bought a half interest in an in-shore fishing boat. Corporate income has allowed Qiqiqtaaluk to acquire a 50 percent interest in Air Baffin and do construction work for the North Warning System.

The Corporation recently made a donation to Arctic College of 10 hand tool sets for carpentry course graduates. The idea is that the tools will allow the graduates to practice what they have learned when they return to their home communities. Qiqiqtaluk believes it's an investment in a local skilled labour force to work on future construction projects undertaken by the Corporation.

"It's our philosophy that we have a responsibility to more than just our employees. We're looking at what's good for the region as a whole," says Mr. Hay.

Qiqiqtaaluk and other local investors, the majority of whom are Inuit, have undertaken a study to look at the feasibility of establishing landing and processing facilities in Iqaluit for the shrimp fishery.

The shrimp fishery is subject to market fluctuations but there shouldn't be any boom and bust cycles. The business is successful this year even though prices are the lowest in years. Mr. Hay says the shrimp fishery is tightly managed so its a business activity that should be available to the region as long as it wants it.

1. Sustainable Development:

The harvest of renewable resources today should not limit prospects for their use by future generations. As such, harvesting should be limited to maintain harvestable resources at sustainable levels. Commercial harvesting must be done in a manner that maintains biological diversity, essential ecological processes and ecosystems, and be compatible with other uses. The principle of sustainable development is based on an underlying assumption that residents will have a say in how development proceeds in their communities. This forms the premise for the second principle.

2. Community Development:

Development of renewable resources use will be consistent with the plans and strategies of community and regional groups, and the results of regional land use planning initiatives. Opportunities which promote community economic self-sufficiency, such as food, fuel and building material production, will be encouraged. The interests of primary producers will be protected.

3. Subsistence and Domestic Markets Will Have Priority:

The priority for renewable resource use will be to meet subsistence requirements first. Remaining identified resources can then be used for commercial production. With commercial products, the priority will be to serve domestic markets, in order to replace imports. Once these needs are met, the demands of the export market can be supplied. Exceptions may be made, where economies of scale dictate that production levels be higher than what is demanded by domestic markets.

4. Maximize Value-Added:

To achieve the greatest economic returns from the existing resources, secondary processing of products will be encouraged. The value of secondary processing is added value of products, additional employment and income opportunities, and spin-off benefits in terms of services to such industries.

5. Fairer Distribution of Wealth:

Although viability will be a major development consideration, equitable distribution of wealth and maximizing employment and income opportunities will be of equal importance.

6. Building on Existing Organizations and Infrastructure:

The prudent northern entrepreneur understands the high cost of product and infrastructure development in the north. Wherever possible the expanded use of existing infrastructure will be considered for new projects. Similarly, existing management, support, and lobbying organizations will be encouraged to take on new functions.

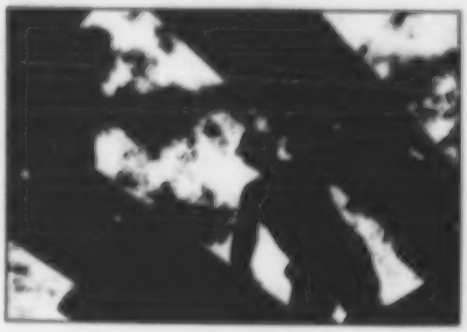
7. Appropriate Technology:

Economies of scale and levels of local expertise will be the guidelines for considering the use of new technology in the renewable resource sector. The potential risks of implementing technology inappropriate to the skills of local producers will be a major consideration. It is recognized that technology designed to improve efficiencies, when used in the wrong context, may in fact

have the reverse effect and amount to a financial drain. This does not preclude the use of state-of-the-art technology, however technology must be appropriately introduced, encourage project stability, reduce the importation of skilled labour, and encourage local employment.

8. Concentrate on Greatest Economic Potential:

Development initiatives will focus on the areas where the known economic potential is greatest. In addition to available natural resources, development requires sufficient availability of human resources and infrastructure.



THE RENEWABLE RESOURCES TARGETS AND DEVELOPMENT PLAN

Larry Simpson, Economic Development and Tourism
Government of the N.W.T.

Many of our renewable resources could be better utilized to employ more people and generate more profit in the N.W.T. The G.N.W.T. has established rigorous targets for replacing imports in the 1990's. Achievement of production targets is critical to maximizing returns on government and private sector investment in the renewable resources industry. This route will take us closer to achieving self-sufficiency in the domestic marketplace.

Nor do we want to stop at domestic market self-sufficiency. It is also determined to improve our competitiveness in the export market, find new markets, and increase production of value-added products. Related initiatives are directed at maximizing the participation of Northerners, and developing mechanisms for consensus decision-making within the renewable resources industry.

The following targets and very specific, initiatives have been identified as critical to industry development.

COMMERCIAL FISHERIES

Targets

The targets for fisheries development over the next five years are to increase production as follows:

- *Increase char production by 33 percent to 161,000 kg valued at $1.0 million.*
- *For the turbot fishery the target is to increase turbot production by 50 percent from 180,000 kg to 270,000 kg valued at $.8 million (pending approval of a request to increase annual quota from 200,000 kg to 500,000 kg).*
- *A third target is to continue development work in the Mackenzie Delta whitefish fishery to determine long term sustainable harvest levels and economic viability of harvesting broadback whitefish and to refine fishing and fish handling techniques.*
- *For the offshore marine fisheries the target is to identify marine fish stocks with economic potential, and determine appropriate markets. Initial emphasis will be in the Baffin Region to build on existing knowledge and investment in promising economic opportunities.*
- *A final target is to process eight percent of all fish harvested commercially in the N.W.T.*

Projected Char Production (kg.)

Fishery	Accessible Quota	Export Production	Intersettlement Trade	Percent Increase	Projected Production
Keewatin	89,000	36,000	8,000	50	66,000
Kitikmeot	77,000	46,000	17,000	20	76,000
Igloolik	45,000	8,000	6,000	35	19,000
Total	211,000	90,000	31,000	33	161,000

* The quotas indicated are based on quotas which are presently accessed. The official quotas which are "on the books" are considerably greater, however, the great distance and cost involved with accessing them makes them uneconomic at this time.

Fisheries Initiatives

1. *Develop a strategy for increasing the efficiency of the Great Slave Lake Fishery to the point where the number of viable fishing operations is maximized without putting undue strain on the fish stocks. Development of the strategy will involve participation of affected groups and agencies.*
2. *Assess the efficiency of current fish freight subsidies in meeting the needs of fishermen, and in achieving a balance between economic efficiency and fair distribution of fishing opportunities.*
3. *Assess the relative costs and benefits of summer and winter fishing operations.*
4. *Research new fisheries technology with a view to increasing efficiency under northern conditions, and devise a plan for upgrading fishing gear and making new technology available to N.W.T. fishermen.*

5. Design a training program to address fish handling, quality control, fishing techniques, and the types and various uses of gear. Conduct on-site training workshops for commercial fishermen.
6. Develop a plan for expanding the existing fisheries facilities and developing new fisheries infrastructure to make fishing in the N.W.T. more viable and efficient.
7. Develop and implement a pilot project for canning fish.
8. Implement the Keewatin Fisheries Strategy including establishment of a strategically located fish plant, and development of capacities for secondary processing.
9. Research fish processing opportunities, and establish fish smoking or other secondary processing facilities where viable.
10. Prepare and implement a five-year development plan for exploring new commercial marine fishing opportunities with initial priority in the Baffin Region.
11. Evaluate the present status of, and develop a plan to improve, the marketing and distribution of fish within and outside the N.W.T.
12. Define the structure, mandate and role of, one central or several regional, fishing industry support organizations.
13. Coordinate the fisheries activities of the G.N.W.T. and the Department of Fisheries and Oceans Canada and regional N.W.T. resource management boards and agencies.

Gene Hachey, Economic Development & Tourism, Government of the NWT

FORESTRY

Targets

The target through the mid-1990's for forestry production is the harvest and sale of 100 thousand cubic metres (20 million board feet) of lumber per year, valued at $6.4 million at 1989 prices through the development of the Liard Valley and other forestry resources.

A second target for the forestry resource is to increase production of fuelwood by 10%.

Forestry Initiatives

1. Conduct a comprehensive inventory of forest stocks in the Liard Valley, Fort Simpson and Mackenzie Valley region, to identify volumes of mature timber, and the productivity of the forested areas. This research is necessary to identify areas of greatest potential and to manage forests on a sustainable yield basis. This research is also very costly and is subject to availability of funds.
2. Develop and implement a reforestation program which addresses the following issues: what areas will be reforested; how extensively; silviculture techniques to be employed; genetic manipulation for adaptation to northern climate; source of seedlings; how to recover costs for a program, and what percentage to recover; and finally, which producers if any would be exempt from paying reforestation fees. As with stock assessment work, extent of reforestation is subject to availability of funds.

Gene Hachey, Economic Development & Tourism, Government of the NWT

3. Establish forest management units and associated clear guidelines for operation requirements, annual quotas and other restrictions on use for implementation following the settlement of Dene/Metis land claims.
4. The G.N.W.T. is a major user of wood products. It will identify opportunities for increasing its use of domestic lumber by: determining suitable uses for N.W.T. wood products; estimating the quantities of lumber used over a specific period of time; identifying quantities used of a standard that N.W.T. producers could meet with present, or expanded mill and drying capabilities; and, setting a minimum standard for dimensional lumber suitable for G.N.W.T. projects.
5. Develop a consensus among existing and potential investors in the forest industry on a forest industry plan; and, determine what infrastructure, (in terms of sawmills, capital equipment and roads) is required to harvest forest resources.
6. Strengthen and broaden the base of the N.W.T. Forestry Industry Association. Examine the possibility of expanding its role to include responsibility for implementing quality control through inspection and grading services.
7. Develop and implement an information campaign to inform potential operators with capital equipment about opportunities, and encourage their participation in the forest industry. Increased participation of contractors in harvesting would reduce capital costs to sawmill operators.
8. Develop the potential for using fuelwood resources including the encouragement of fuelwood conversion, where practical, and developing a distribution system to improve access to domestic markets.
9. Assess potential uses, markets and economics of utilizing sawmill by-products.

AGRICULTURE

Target

Preliminary agriculture undertakings have demonstrated that certain products can be successfully produced in the N.W.T. Production of chicken and eggs at a level sufficient to meet N.W.T. demand would generate $2.5 million in revenues.

The agriculture target is to demonstrate the costs of production for basic products and processing and appropriate technology to be used in the northern environment. The ultimate goal of agricultural development is to strive towards a highest possible degree of self-sufficiency in products which may be produced in the N.W.T.

Agriculture Initiatives

1. Coordinate the development of an Agriculture Policy to allow for the rational development of the agriculture industry in the N.W.T. Involvement of interested groups and organizations will be part of the process.
2. Develop a legal policy framework for allocating quota and regulating products.

3. Continue negotiations with national marketing boards to secure production quotas for N.W.T. chickens and eggs.
4. Initiate negotiations for participation in national stabilization programs for pork and beef.
5. Develop an information base on agricultural production in the N.W.T.
6. Develop standards for the construction of meat processing facilities, transportation of products, storage and handling of meat to guarantee the consistent excellence of N.W.T. products.
7. Liaise with the Department of Health and Welfare Canada to ensure that processed food products meet existing federal standards.
8. Prepare a plan for investing in the establishment of production, abattoir and processing facilities, and a produce distribution network for the Hay River Corridor and South Slave areas, including Fort Simpson.
9. Develop and implement a basic research program, in conjunction with an established research institute, into agricultural techniques appropriate to the north.
10. Conduct one or more market garden demonstration projects to test the viability and suitability of various crops, with an emphasis on cash crops.
11. Promote the development of a line of specialty products indigenous to the N.W.T. which convey a northern image.
12. Conduct a three-year demonstration project to determine the feasibility of game ranching in Forth Smith.
13. Investigate the economic feasibility and socioeconomic impacts of establishing a char aquaculture facility in the N.W.T.

COUNTRY FOODS

Target

The target for the 1990's is to increase production to 50% of the overall quota for caribou and musk-ox and utilize 20% for secondary processing. Based on a per kilogram retail value of $13 and $30 respectively for regular and value-added meat products, this represents $3.5 million in revenues.

Country Foods Initiatives

1. Develop and implement an information campaign to encourage hunters to take advantage of commercial wildlife quotas.
2. Encourage greater efficiency in commercial wild meat harvesting and standardization of commercial harvesting methods through appropriate training and demonstration programs. This initiative will be carried out in conjunction with affected Hunters and Trappers Associations and Committees.
3. Develop standards for the construction of meat processing facilities, transportation of products, storage and handling of meats to guarantee the consistent excellence of N.W.T. products.
4. Liaise with the Department of Health and Welfare Canada to ensure that processed food products meet existing federal standards.
5. Prepare a capital investment plan for establishing abattoirs, processing facilities, and retail outlets to best utilize existing commercial wildlife

Projected Caribou and Musk-ox Harvest
Number of Animals

Species	100% Quota	50% Quota	Total Value ($)
Caribou	3,900	1,950	1,279,200
Musk-ox	3,039	1,520	2,243,520
Total	6,939	3,470	3,522,720

Les Kurly, Culture and Communications, Government of the NWT

quotas. This plan will include establishing an abattoir and processing facility for musk-ox on Banks Island.

6. Develop a standard design for country foods processing plants.
7. Determine the minimum quantity of product required to establish and operate an economically viable processing plant.
8. Build on existing commercial retail food outlets for the marketing of country foods widely throughout the N.W.T.
9. Research and develop unique product lines to enhance the export potential of surplus country foods.
10. Test market high-end, specialty product lines in the Canadian and international marketplace.
11. Develop a distribution network linking country foods producers with the export market. Such a network will be capable of taking orders, and facilitating purchases and sales.
12. Improve transportation infrastructure to encourage inter-settlement trade of country foods.
13. Encourage the utilization of by-products of wildlife harvests by investigating product supply, processing alternatives and potential markets.
14. Investigate market products and production techniques for processing qiviut (the wool of the undercoat of the musk-ox).

FUR

Target

Fur production in the N.W.T. made up 5% of the value of Canadian fur sales in 1987/88. During the same year 33% of the pelts produced in Canada were ranched, although ranch-raised furs made up 47% of the value of all pelts produced in Canada. The N.W.T. has a unique opportunity to expand its ranched fur production and take advantage of the greater economic returns generated from fur ranching. Because of the higher value of ranch-raised pelts, many trappers feel threatened by the expansion of the ranched fur industry, although the portion of ranch-raised fur produced in the N.W.T. is a fraction of N.W.T. produced pelts. Therefore, we would be wise to proceed cautiously to ensure that traditional trapping activities are not adversely affected.

The target then, is to establish one demonstration fur farming operation raising a suitable combination of furbearer species which can be used as a model for establishing other such operations if viable.

Fur Initiatives

1. Establish clear and comprehensive regulations to govern the capture, holding, import and export of indigenous and non-native species of furbearers.
2. Develop and implement a research project to determine the optimal diets and breeding techniques required in fur farming. Such research will include systematically varying diets, and breeding and handling techniques.
3. Investigate the logistics and feasibility of raising furbearing species other than silver fox and combinations of species in the N.W.T.

4. Obtain technical information appropriate to the N.W.T. on raising furbearers from sources within and outside Canada.
5. Develop a fur farming model on the basis of research and demonstration results, which can be adopted by other areas of the N.W.T.
6. Develop training materials for training future participants in the fur farming industry.
7. Investigate options for expanding the domestic market for furs as a means of countering the world-wide effects of the anti-trapping movement.
8. Establish a model tannery in each of the Western and Eastern Arctic to experiment with fur-on and fur-off tanning techniques. If successful, such tanneries can be adapted to other parts of the N.W.T.

TRAPPER TURNS FUR FARMER

Initiative and determination are what's sustaining a northern fox ranch at the mercy of a failing fur market.

Warren and Nancy Magrum's silver fox farm outside Hay River is something of a research centre for northern fur ranching, has the attraction of a zoo for its many visitors, and is a source of both pride and frustration for its owners.

A lifelong trapper, Mr. Magrum started fur ranching with his wife, Nancy, once their children were in school and it became important to them to be in town. It took initiative to strike off into the unknown territory of fur farming, and has required even greater determination to maintain the ranch while watching fox prices dip dramatically during

the past few years.

"If I had got into fur farming before the prices dropped, I might have been able to get to a size where I could have ridden out these low prices easier. Most of the people doing well these days are operating farms which their parents started 40 years ago. And most have other things to fall back on, like cattle or some crops," Mr. Magrum explains.

THERE'S SO MUCH TO LEARN

Rancher Warren is hoping to diversify by trying to raise marten and fisher, which are commanding better prices at fur markets: "It would be nice to know if it's feasible to do that here. There's so much to learn."

"A lot of people have come around to visit and see the operation here. It's almost like a zoo. But it's good for people to see. It makes them aware of what's happening and where fur coats come from."

While Mr. Magrum has been able to apply the knowledge and skills acquired from trapping, he has also built up a wealth of new information through both experience and research since he started fur farming. And, he was surprised to find that managerial skills, like bookkeeping, would be such a large part of the operation.

It would be easier if there were other fur farmers in the area. Information could be shared, more economical sources of feed arranged, and animals could be traded at breeding time.

And he thinks suppliers in the south would provide better service if they had more northern business at risk. "A lot of the supplies I need are specialty items that are only available in the east or the U.S. I'm dealing with different suppliers and I'm only a small farm in the boonies. They don't have an interest is providing good service to customers like me."

YOU CAN CONTROL QUALITY OF FUR

Mr. Magrum is optimistic about fur farming in the north, especially where there is a commercial fishing industry or a seal tannery to provide a readily available food supply. He suggests that some financial assistance from government is necessary, as it was for him and other fur farmers in places like Finland.

With ranch fur already accounting for more than half the fur sold in Canada, and 90 percent of that sold on the world market, Mr. Magrum does not consider himself in direct competition with the trapping industry. He faces the same unstable market conditions and the negative effects of the anti-fur movement. This year he will pelt 350 silver foxes. If the fur prices go up, he predicts that the quality of ranch fur could make it an important NWT export.

"I trapped all my life and I couldn't believe the difference. Ranch fur is much higher quality. The animals are well-fed. They are bred for genetic qualities. The pelts are bigger.

"With trapping you take what you can get. I do like the idea of having control over the fur I'm producing. I get pleasure and pride out of producing a superior animal. I've made mistakes, but when it works out there's a lot of pride in it."

SUMMARY

The generally healthy state of the renewable resources in the Northwest Territories is evidence of past good management. Good management today is embodied in the term, sustainable development - leaving behind for future generations the same opportunities to use our resources as we enjoy today.

The north's renewable resources hold great promise, as they always have, for people to maintain their connection with the land and their heritage. These same resources offer significant economic prospects, especially for the small, traditional communities where such prospects are generally scarce.

Realizing the economic potential of our renewable resources must not demand trade-offs which are incompatible with sustainable development or traditional lifestyles. That is one of the most attractive aspects of the industry.

Commercial harvest of resources is based on quotas established by resource management agencies which indicate an allowable level of harvest beyond what is taken for subsistence use. Often the cash generated from the commercial sale of fish and wildlife helps offset the high costs of harvesting for subsistence use. In other areas intensive production, as in agriculture and forestry, with appropriate reforestation, increases the natural productivity of the resource base and helps to protect the renewable resource economy from the impacts of fluctuating populations.

Growth, and the resulting rewards for small communities, has its demands, however. The long list of government initiatives outlined in the Renewable Resources Strategy depend for success on the commitment and participation of Northerners in the wise and beneficial use of and investment in our resources.

The success of this action plan will be measured by the extent to which employment and income opportunities are created throughout the N.W.T., and increased production promotes self-sufficiency and exports. Luckily, we have abundant resources for the task.

Note: For a more detailed look at the N.W.T. renewable resource industry and economic opportunities, refer to Renewable Resources: Building on a Tradition Supplementary Document.